

Rules for Multiplying Fractions

Remember that to multiply fractions, you multiply numerators by numerators and denominators by denominators! Reduce to lowest terms before multiplying if you can but you must reduce products to lowest terms (meaning mixed number if necessary)

Fraction by a Fraction

Multiply numerators by numerators

$$\frac{2}{7} \times \frac{1}{3} = \frac{2}{21}$$

Both are prime numbers so
it won't reduce.

Multiply denominators by denominators

Fraction by a Whole Number

Any whole number can be made into a fraction by giving it a 1 as a denominator.

Example: $5 = \frac{5}{1}$

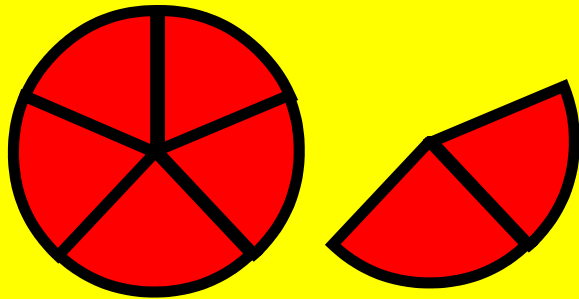
If you change a whole number to a fraction with a denominator of 1, you can just multiply as usual, numerators by numerators and denominators by denominators.

$$\frac{5}{9} \times 2 = \frac{5}{9} \times \frac{2}{1} = \frac{10}{9} = 1 \frac{1}{9}$$

Cannot leave product as an improper fraction. Must change to a mixed number.

Mixed Numbers

When you have to multiply a mixed number, you should change it to an improper fraction first and then multiply as a fraction.



$$1\frac{2}{5} = \frac{7}{5}$$

One and two fifths can be thought of as 7 fifths.

Mathematically, we can change it to an improper fraction by multiplying the denominator by the whole number (5×1) and then add the numerator (+2). This will give you 7 as the new numerator. The denominator stays the same.

Mixed Number by a Mixed Number

First change both to improper fractions

$$1\frac{+2}{\times 5} \times 3\frac{+3}{\times 6} =$$

$$\frac{7}{5} \times \frac{21}{6} = \frac{147}{30}$$

Change to a mixed number
by dividing 147 by 30. You
get 4 with 27 left over.

$$4\frac{27}{30}$$


Solving Problems with Fractions

11. There are 36 candies in a bag. Ben eats $\frac{1}{4}$ of them. How many are left?

Ask yourself what is the question? In this case we need to know how many candies Ben ate to find out how many would be left. What we really need to know is what is one quarter of 36? In math, "of" always means multiply.

what is one quarter of 36?

In math language, we would write, $\frac{1}{4} \times 36 =$



Multiply by changing 36 to a fraction and then numerators by numerators and denominators by denominators. **Remember that a fraction is really a division question. 36/4 MEANS 36 divided by 4.**

Now that you know how many Ben ate (9), you can subtract from the original amount (36) and find out that there are 27 candies left.